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Youngryel Ryu

Associate Professor of Environmental Ecology
Department of Landscape Architecture and Rural Systems Engineering
Seoul National University, Seoul, South Korea

Office: 200 BLDG-9213A (Gwanak campus)
Tel: +82-2-880-4871
Fax: +82-2-873-5113
Email: yryu@snu.ac.kr ryuyr77@gmail.com
Home: <http://environment.snu.ac.kr>

Employment

- 2015- Associate Professor. Department of Landscape Architecture and Rural Systems Engineering, **Seoul National University**
- 2011-2015 Assistant Professor. Department of Landscape Architecture and Rural Systems Engineering, **Seoul National University**
- 2010-2011 Postdoctoral Fellow. Dept. Organismic and Evolutionary Biology, **Harvard University** (advisor: Dr. Andrew Richardson)
- 2010 Research Internship **Microsoft Research** (advisor: Dr. Catharine van Ingen)

Education

- 2010 Ph.D. Department of Environmental Science, Policy and Management (Ecosystem Sciences major), **UC Berkeley** (advisor: Dr. Dennis Baldocchi)
- 2005 M.C.P. Graduate School of Environmental Studies, **Seoul National University** (advisor: Dr. Downon Lee)
- 2003 B.S. Department of Landscape Architecture, **Seoul National University**

Professional Activities

- 2016- Editorial Board Member for *Remote Sensing of Environment*
- 2016 Guest Editor in a special issue of *Biogeosciences* “OzFlux: a network for the study of ecosystem carbon and water dynamics across Australia and New Zealand”
- 2013- Director of BK21plus team: “Global leadership program towards innovative green infrastructure”
- 2012- Editorial Board Member for *Agricultural and Forest Meteorology*

Research Interests

Land-atmosphere interactions, Exponential technologies, Near-surface to satellite remote sensing of land surfaces, Urban ecology

Awards & Honors

2016	Outstanding achievement award in BK21 Plus Assessment
2012	2011 Editors' Citation for Excellence in Refereeing for <i>Global Biogeochemical Cycles</i>
2010	Jim Gray Seed Grant, Microsoft Research (35,000\$)
2008-2010	NASA Earth and Space Science Fellowship (30,000\$/yr)
2005	Best Oral Presentation Award, 7 th Annual Academic Conference of the Korean Society of Agricultural and Forest Meteorology
Sep. 2004	Award for the Special Program for Urban, Regional and Environmental Policies, Graduate School of Environmental Studies, Seoul National University
Mar. 2004	Award for the Special Program for Urban, Regional and Environmental Policies, Graduate School of Environmental Studies, Seoul National University
2003	Graduated <i>cum laude</i>
2001- 2003	Seoul National University Honorary Scholarships

Grants (1\$=1000 won for Korean grants, PI: Principle Investigator)

2016-2019:	Monitoring canopy photosynthesis through remote sensing of sun-induced chlorophyll fluorescence. 300,000\$ from National Research Foundation (PI)
2015-2016:	Tracking vegetation phenology from leaf to regional scales with near-surface and satellite remote sensing. 150,000\$ from National Research Foundation (X Project) (PI)
2015-2020:	Quantifying leaf traits, canopy structure and functions in Council, Alaska. 250,000\$ from the Korean Polar Research Institute (KOPRI) (PI)
2015-2018:	Monitoring rice growth and yields based on satellite remote sensing. 360,000\$ from National Center for Agro Meteorology (PI)
2014-2017:	Multi-satellite remote sensing of terrestrial carbon balances in East Asia. 300,000\$ from National Research Foundation (National Leading Research Lab, PI)
2014:	Establishing the foundation of core technologies for custom-made agricultural & forest meteorological services. 79,000\$ (SNU portion) from National Center for Agro Meteorology (Co-PI, PI: Prof Joon Kim)
2013-2020:	Global Leadership Program Towards Innovative Green Infrastructure. 230,000\$ per year from BK21 Plus, National Research Foundation (PI)
2013-2014:	Accelerating visualization and data analysis of global gross photosynthesis and evaporation by integrating FetchClimate and MODIS-Azure pipeline. 57,000\$ from Microsoft Research (PI)
2013-2016:	A framework for carbon monitoring and upscaling in forests across Mexico to support implementation of REDD+, NASA Carbon Monitoring System (Co-I, PI: Rodrigo Vargas)
2013-2016:	Australian Savanna Landscapes: Past, Present and future, Australian Research Council (Co-

- I, PI: Jason Beringer)
- 2013-2016: Center for Climate/Environment Change Prediction Research. 250,000\$ (SNU portion) from National Research Foundation (ERC) (Co-I, PI: Prof Seonki Park)
- 2012-2015: Quantifying carbon cycle in an urban forest of Seoul. 200,000\$ from National Research Foundation (PI)
- 2011-2014: Global monitoring of water and carbon exchanges between biosphere and atmosphere using remote sensing. 210,000\$ from National Research Foundation (PI)
- 2011: Land surface models for developing Earth weather prediction model. 45,000\$ from Korea Institute of Atmospheric Prediction Systems (KIAPS) (PI)

Memberships

- 2005 - Member, American Geophysical Union (AGU)
- 2005 - Member, Ecological Society of America (ESA)
- 2005 - Working group member of Korea Flux Network (KOFLUX)

Advising

Post-Doctoral Fellow:

- Benjamin Dechant (4/2017-present)
- Yan Huang (9/2015-present)
- Chongya Jiang (8/2014-present)

Current students:

PhD course:

- Yorum Hwang (PhD course, 2016-present)
- Jongmin Kim (PhD course, 2015-present)

Master course:

- Juwon Kong (Master course, 2017-present)
- Kaige Yang (Master course, 2016-present)
- Soyoun Kim (Master course, 2016-present)
- Jane Lee (Master course, 2015-present)
- Jeehwan Bae (Master course, 2012-present)

Alumni:

Graduate students

- Jongmin Kim (MLA): 2015-2017. Thesis title: "Continuous observation of vegetation indices, leaf area index (LAI) and fraction of absorbed photosynthetically active radiation (fPAR) using an integrated low-cost near

surface sensing system”

Now: PhD course in the same lab

Yorum Hwang (MLA): 2014-2016. Thesis title: “Correction for light scattering combined with sub-pixel classification improves estimation of gap fraction from digital cover photography”

Now: PhD course in the same lab

Seungjun Lee (MLA): 2014-2016. Thesis title: “Urban heat mitigation by roof surface materials during the East Asian summer monsoon”

Now Employed: Jangwon Landscaping Co. Ltd

Jina Jeong (MS): 2013-2016. Thesis title: “Trees growing through impervious surfaces use shallower water sources: A stable isotope study”

Now Employed: Researcher in VU, The Netherlands

Hyungsuk Kimm (MLA): 2013-2015. Thesis title: “Modeling carbon and energy fluxes in a heterogeneous urban park”

Now: PhD student at University of Illinois at Urban Champaign, USA

Soohyun Jeon (PhD course): 2013-2014 (dropped)

Now Employed: LG U+

Galam Lee (PhD Course): 2013-2014

(currently, PhD course at Interdisciplinary Program in Agricultural and Forest Meteorology, SNU)

Postdoc Fellows

Youngkeun Song 4/2013-8/2015

Now Employed: Assistant Professor, Seoul National University

Undergraduate Internships

Jungeun Lee: 2017

Sungkyu Lee: 2016

Soyoun Kim: 2015

Jisoo Sung: 2015

Wonseok Choi: 2015

Junhaeng Ho: 2015

Jongmin Kim: 2014

Yorum Hwang: 2014
Youngdae Shin: 2013
Seungjun Lee: 2013
Hyungsuk Kimm: 2012
Juwon Kong: 2012
Jaehoon Jung: 2012

Thesis committee members

Junsik Kim (MLA, 2015): Seoul National University
Jane Oh (MLA, 2015): Seoul National University
GoWoon Kim (PhD, 2016): Seoul National University
Hyomin Kim (PhD, 2015): Seoul National University
Soyon Bae (PhD, 2015): Seoul National University
Titta Majasalmi (PhD, 2015): University of Helsinki
Yohana Maria Indrawati (MS, 2015): Seoul National University
Moonhee Lee (MLA, 2015): Seoul National University
Jaebum Kim (MS, 2015): Kangwon National University
Seulki Jeong (MLA, 2015): Seoul National University
Hankyul Heo (MLA, 2015): Seoul National University
Sangjin Park (MLA, 2015): Seoul National University
Jikeun Woo (PhD, 2014): Seoul National University
Seungwon Jeong (MS, 2014): Ewha Womans University
Riwako Tanaka (MLA, 2014): Seoul National University
Haeryoung Kim (MLA, 2014): Seoul National University
Keungchang Jang (PhD, 2013): Kangwon National University
Narae Lee (MLA, 2013): Seoul National University
Kyunghae Paek (MLA, 2013): Seoul National University
Jinhee Ahn (MLA, 2013): Seoul National University
Sun Cho (MCP, 2013): Seoul National University
Eunju Lee (MCP, 2013): Seoul National University
Soohyun Jeon (MCP, 2013): Seoul National University
Jiyoung Lee (MLA, 2012): Seoul National University
Minkoo Kang (MCP, 2012): Seoul National University
Hogul Kim (MLA, 2012): Seoul National University

Professional Service

1. Editorial service

Member of Editorial Board for *Remote Sensing of Environment*: 2016-

Member of Editorial Board for *Frontiers in Ecology and Evolution* (Urban Ecology section): 2015-

Member of Editorial Board for *Agricultural and Forest Meteorology*: 2012-

Member of Editorial Board for *Korean Journal of Agricultural and Forest Meteorology*: 2011-

Member of Editorial Board for *Journal of the Korean Institute of Landscape Architecture*: 2015-

2. Journal Referee (numbers/year)

Advances in Atmospheric Sciences (1/14)

Agricultural and Forest Meteorology (1/08, 1/09, 5/10, 4/11, 5/12, 7/13, 5/14, 8/15, 5/16, 3/17)

Agriculture, Ecosystems and Environment (1/13, 1/14)

Asia-Pacific Journal of Atmospheric Sciences (2/08)

Biogeosciences (1/09, 1/13, 1/15, 2/16)

Building and Environment (2/08)

Crop Science (1/12)

Ecological Informatics (1/12)

Ecological Modelling (1/11)

Ecological Research (1/12, 1/14)

Geophysical Research Letters (1/12, 1/13)

Geoscientific Model Development (1/14)

Global Biogeochemical Cycles (1/10, 1/11, 1/12)

Global Change Biology (1/07, 1/08, 2/12, 3/15, 1/16, 1/17)

Global Ecology and Biogeography (1/17)

Hydrological Processes (1/08)

International Journal of Biometeorology (1/10)

International Journal of Earth Sciences and Engineering (1/09)

International Journal of Forest Research (1/10)

International Journal of Remote Sensing (1/14)

Journal of Applied Meteorology and Climatology (1/10)

Journal of Geophysical Research-Biogeoscience (3/10, 1/11, 1/16)

Journal of Hydrology (1/12)

Journal of Hydrometeorology (1/10)

Journal of Vegetation Science (1/11)

Korean Journal of Agricultural and Forest Meteorology (2/09, 1/12)

Land Degradation & Development (1/17)

Landscape and Urban Planning (1/12)

Nature (1/14, 1/15)

Nature Communications (1/16)
New Phytologist (1/07, 1/08)
PLoS ONE (1/12, 1/14)
Remote Sensing (1/09, 1/14, 1/15)
Remote Sensing of Environment (1/09, 2/10, 1/11, 2/12, 1/13, 2/14, 3/15, 2/16, 5/17)
Science of the Total Environment (1/14, 1/15)
Sensors (2/10)
Soil Biology and Biochemistry (1/13)
Water Resources Research (1/10, 1/11, 1/12, 1/16)

3. Synergistic Activities

- Co-Convener of session on 'Beyond Changes in Mean Climate: The Impacts of Climate Variabilities on Terrestrial Ecosystems', 2013 AGU Fall Meeting
- Convener of session on 'Quantifying terrestrial carbon and water fluxes from plot level to the global scale: Challenges and opportunities', 2012 AOGS-AGU Symposium, Singapore
- Co-Convener of session on 'Environmental Sensing Technologies for Improved Land Surface Characterization', 2010 AGU Fall Meeting

Publications

1. Peer-reviewed journal articles (International Journals)

(lab members are in bold, *corresponding author)

-In review-

Jeong, J., Ryu, Y.*, Lee, D. (2016) Trees growing through impervious surfaces use shallower water sources: A stable isotope study. Journal of Hydrology In review.

Vierling, L., Hilker, T., Gamon, J.A., Coops, N.C., Baldocchi, D.D., Magney, T.S., **Ryu, Y.**, Papale, D., Sonnentag, O., Garrity, S., Huemmrich, K.F., & Eitel, J.U.H. (2015). Spectral metabolics: Emerging findings, methodologies, and implications of estimating canopy gas exchange using remote sensing. New Phytologist, In review

Jeong, S.J., Ho, C.H., Jin, C.S., Lee, M.I., Choi, Y.S., & **Ryu, Y.** (2015). Comprehensive assessment of urban albedo management for cooling a megacity: A case study of Seoul, South Korea.

-Revised-

Ryu, Y.*, **Jiang, C.**, Kobayashi, H., Detto, M. (2017) MODIS-derived global land products of shortwave radiation and diffuse and total photosynthetically active radiation at 5 km resolution from 2000. Remote Sensing of Environment In revision

Whitley, R., Beringer, J., Hutley, L.B., Abramowitz, G., De Kauwe, M.G., Evans, B., Haverd, V., Li, L., Moore, C., **Ryu, Y.**, Scheiter, S., Schymanski, S.J., Smith, B., Wang, Y.P., Williams, M., Yu, Q. (2016) Challenges and opportunities in modelling savanna ecosystems. *Biogeosciences Discuss.* 2016, 1-44.

-Published-

-2017-

- [38] **Bae, J., & Ryu, Y.*** (2017). Spatial and temporal variations in soil respiration among different land cover types under wet and dry years in an urban park. *Landscape and Urban Planning*, 167, 378–385 (2017.11)
- [37] **Jiang, C., Ryu, Y.***, Fang, H., Myneni, R.B., Claverie, M., Zhu, Z. (2017) Intra- and inter-inconsistencies in global long-term satellite leaf area index products. *Global Change Biology* In press
- [36] Vargas, R., Alcaraz-Segura, D., Birdsey, R., Brunzell, N.A., Cruz-Gaistardo, C.O., de Jong, B., Etchevers, J., Guevara, M., Hayes, D.J., Johnson, K., Loescher, H.W., Paz, F., **Ryu, Y.**, Sanchez-Mejia, Z., Toledo-Gutierrez, K.P. (2017) Enhancing interoperability to facilitate implementation of REDD+: case study of Mexico. *Carbon Management*, 1-9
- [35] Akuraju, V.R., Ryu, D., George, B., **Ryu, Y.**, Dassanayake, K. (2017) Seasonal and inter-annual variability of soil moisture stress function in dryland wheat field, Australia. *Agricultural and Forest Meteorology* 232, 489-499 (2017.01)

-2016-

- [34] **Jiang, C., Ryu, Y.*** (2016) Multi-scale evaluation of global gross primary productivity and evapotranspiration products derived from Breathing Earth System Simulator (BESS). *Remote Sensing of Environment* 186, 528-547 (2016.12)
- [33] Baldocchi, D., **Ryu, Y.**, Keenan, T. (2016) Terrestrial Carbon Cycle Variability F1000Research, 5(F1000 Faculty Rev):2371. (2016.09)
- [32] Verma, M., Fisher, J., Mallick, K., **Ryu, Y.**, Kobayashi, H., Guillaume, A., Moore, G., Ramakrishnan, L., Hendrix, V., Wolf, S., Sikka, M., Kiely, G., Wohlfahrt, G., Gielen, B., Roupsard, O., Toscano, P., Arain, A., Cescatti, A. (2016) Global Surface Net-Radiation at 5 km from MODIS Terra. *Remote Sensing* 8, 739 (published on 2016.09)
- [31] Whitley, R., Beringer, J., Hutley, L.B., Abramowitz, G., De Kauwe, M.G., Duursma, R., Evans, B., Haverd, V., Li, L., **Ryu, Y.**, Smith, B., Wang, Y.P., Williams, M., Yu, Q. (2016) A model inter-comparison study to examine limiting factors in modelling Australian tropical savannas. *Biogeosciences* 13, 3245-3265. (published on 2016.06)

- [30] **Hwang, Y., Ryu, Y.*, Kimm, H., Jiang, C.,** Lang, M., Macfarlane, C., Sonnentag, O. (2016) Correction for light scattering combined with sub-pixel classification improves estimation of gap fraction from digital cover photography. *Agricultural and Forest Meteorology* 222, 32-44. (published on 2016.05)
- [29] Pisek, J., Chen, J.M., Kobayashi, H., Rautiainen, M., Schaepman, M.E., Karnieli, A., Sprinstin, M., **Ryu, Y.,** Nikopensius, M., Raabe, K. (2016) Retrieval of seasonal dynamics of forest understory reflectance from semiarid to boreal forests using MODIS BRDF data. *Journal of Geophysical Research: Biogeosciences* 121, 855-863. (published on 2016.03)
- [28] He, L., Liu, J., Chen, J.M., Croft, H., Wang, R., Sprintsin, M., Zheng, T., **Ryu, Y.,** Pisek, J., Gonsamo, A., Deng, F., & Zhang, Y. (2016). Inter- and intra-annual variations of clumping index derived from the MODIS BRDF product. *International Journal of Applied Earth Observation and Geoinformation*, 44, 53-60 (published on 2016.02)

-2015-

- [27] **Lee, S., Ryu, Y.*, Jiang, C.** (2015) Urban heat mitigation by roof surface materials during the East Asian summer monsoon. *Environmental Research Letters* 10, 124012 (published on 2015.12)
- [26] **Kimm, H., Ryu, Y.*** (2015) Seasonal variations in photosynthetic parameters and leaf area index in an urban park. *Urban Forestry & Urban Greening* 14, 1059-1067 (published on 2015.12)
- [25] **Song, Y., Ryu, Y.*** (2015) Seasonal changes in vertical canopy structure in a temperate broadleaved forest in Korea. *Ecological Research* 30, 821-831 (published on 2015.09)
- [24] Ke, Y., Im, J., Lee, J., Gong, H., **Ryu, Y.** (2015) Characteristics of Landsat 8 OLI-derived NDVI by comparison with multiple satellite sensors and in-situ observations. *Remote Sensing of Environment* 164, 298-313 (published on 2015.07)
- [23] **Bae, J., & Ryu, Y.*** (2015). Land use and land cover changes explain spatial and temporal variations of the soil organic carbon stocks in a constructed urban park. *Landscape and Urban Planning*, 136, 57-67 (published on 2015.04)
- [22] Kim, S., & **Ryu, Y.** (2015). Describing the spatial patterns of heat vulnerability from urban design perspectives. *International Journal of Sustainable Development & World Ecology*, 22, 189-200 (published on 2015.03)

-2014-

- [21] **Song, Y., Ryu, Y.*, & Jeon, S.** (2014). Interannual variability of regional evapotranspiration under precipitation extremes: A case study of the Youngsan River basin in Korea. *Journal of Hydrology*, 519, 3531-3540 (published on 2014.11)
- [20] Macfarlane, C., **Ryu, Y.,** Ogden, G.N., & Sonnentag, O. (2014). Digital canopy photography: Exposed and in the raw. *Agricultural and Forest Meteorology*, 197, 244-253 (published on 2014.10)

- [19] Hendrix, V., Ramakrishnan, L., **Ryu, Y.**, van Ingen, C., Jackson, K.R., & Agarwal, D. (2014). CAMP: Community Access MODIS Pipeline. *Future Generation Computer Systems*, 36, 418-429 (published on 2014.07)
- [18] **Ryu, Y.***, Lee, G., Jeon, S., Song, Y., & Kimm, H. (2014). Monitoring multi-layer canopy spring phenology of temperate deciduous and evergreen forests using low-cost spectral sensors. *Remote Sensing of Environment*, 149, 227-238 (published on 2014.06)
- 2013-
- [17] Pisek, J., **Ryu, Y.**, Sprintsin, M., He, L., Oliphant, A.J., Korhonen, L., Kuusk, J., Kuusk, A., Bergstrom, R., Verrelst, J., & Alikas, K. (2013). Retrieving vegetation clumping index from Multi-angle Imaging SpectroRadiometer (MISR) data at 275 m resolution. *Remote Sensing of Environment*, 138, 126-133 (published on 2013.11)
- [16] Kobayashi, H., **Ryu, Y.***, Baldocchi, D.D., Welles, J.M., & Norman, J.M. (2013). On the correct estimation of gap fraction: how to remove scattered radiation in the gap fraction measurements? *Agricultural and Forest Meteorology*, 174-175: 170-183 (published on 2013.06)
- 2012-
- [15] Richardson, A.D., Keenan, T.F., Migliavacca, M., **Ryu, Y.**, Sonnentag, O., & Toomey, M. (2012). Climate change, phenology, and phenological control of vegetation feedbacks to the climate system. *Agricultural and Forest Meteorology*, 169: 156-173 (published on 2013.02)
- [14] **Ryu, Y.***, Verfaillie, J., Macfarlane, C., Kobayashi, H., Sonnentag, O., Vargas, R., Ma, S., & Baldocchi, D.D. (2012). Continuous observation of tree leaf area index at ecosystem scale using upward-pointing digital cameras. *Remote Sensing of Environment*, 126, 116-125 (published on 2012.11)
- [13] Keenan, T.F., Baker, I., Barr, A., Ciais, P., Davis, K., Dietze, M., Dragoni, D., Gough, C.M., Grant, R., Hollinger, D., Hufkens, K., Poulter, B., McCaughey, H., Rackza, B., **Ryu, Y.**, Schaefer, K., Tian, H., Verbeeck, H., Zhao, M. & Richardson, A. (2012) Terrestrial biosphere model performance for inter-annual variability of land-atmosphere CO₂ exchange. *Global Change Biology*, 18(6): 1971–1987 (published on 2012.06)
- [12] **Ryu, Y.***, Baldocchi, D.D., Black, T.A., Detto, M., Law, B.E., Leuning, R., Miyata, A., Reichstein, M., Vargas, R., Ammann, C., Beringer, J., Flanagan, L.B., Gu, L., Hutley, L.B., Kim, J., McCaughey, H., Moors, E.J., Rambal, S. & Vesala, T. (2012) On the temporal upscaling of evapotranspiration from instantaneous remote sensing measurements to 8-day mean daily-sums. *Agricultural and Forest Meteorology*, 152, 212-222. (published on 2012.01)
- [11] Kobayashi, H., Baldocchi, D.D., **Ryu, Y.**, Chen, Q., Ma, S., Osuna, J.L. & Ustin, S.L. (2012) Modeling energy and carbon fluxes in a heterogeneous oak woodland: A three-dimensional approach. *Agricultural and Forest Meteorology*, 152, 83-100. (published on 2012.01)

-2011-

- [10] **Ryu, Y.***, Baldocchi, D.D., Kobayashi, H., van Ingen, C., Li, J., Black, T.A., Beringer, J., van Gorsel, E., Knohl, A., Law, B.E., & Rouspard, O. (2011). Integration of MODIS land and atmosphere products with a coupled-process model to estimate gross primary productivity and evapotranspiration from 1 km to global scales. *Global Biogeochemical Cycles*, 25, GB4017, doi:10.1029/2011GB004053 (published on 2011.12)
- [9] Pisek, J., **Ryu, Y.** & Alikas, K. (2011) Estimating leaf inclination and G-function from leveled digital camera photography in broadleaf canopies. *Trees - Structure and Function*, 25, 919-924. (published on 2011.10)
- [8] Agarwal, D., Cheah, Y.-W., Fay, D., Fay, J., Guo, D., Hey, T., Humphrey, M., Jackson, K., Jie Li, Poulain, C., **Ryu, Y.** and van Ingen, C., 2011. Data-intensive science: The Terapixel and MODIS Azure projects. *International Journal of High Performance Computing Applications*, 25(3): 304-316. (published on 2011.08)
- [7] Sonnentag, O., Detto, M., Vargas, R., **Ryu, Y.**, Runkle, B.R., Kelly, N.M. and Baldocchi, D.D., 2011. Tracking the structural and functional development of a perennial pepperweed (*Lepidium latifolium* L.) infestation using a multi-year archive of webcam imagery and eddy covariance measurements. *Agricultural and Forest Meteorology*, 151(7), 916-926 (published on 2011.07)

-2010-

- [6] **Ryu, Y.***, Baldocchi, D.D., Verfaillie, J., Ma, S., Falk, M., Ruiz-Mercado, Il, Hehn, T., Sonnentag, O. (2010). Testing the performance of a novel spectral reflectance sensor, built with light emitting diodes (LEDs), to monitor ecosystem metabolism, structure and function. *Agricultural and Forest Meteorology*. 150, 1597-1606 (published on 2010.12)
- [5] **Ryu, Y.***, Nilson, T., Kobayashi, H., Sonnentag, O., Law, B.E., & Baldocchi, D.D. 2010. On the correct estimation of effective leaf area index: does it reveal information on clumping effects? *Agricultural and Forest Meteorology*, 150, 463-472 (published on 2010.03)
- [4] **Ryu, Y.***, Sonnentag, O., Nilson, T., Vargas, R., Kobayashi, H., Wenk, R., & Baldocchi, D.D. 2010. How to quantify tree leaf area index in an open savanna ecosystem: A multi-instrument and multi-model approach. *Agricultural and Forest Meteorology*, 150, 63-76 (published on 2010.01)

-2009-

- [3] **Ryu, Y.***, Kim, S., and Lee, D. 2009. The influence of wind flows on dwellers' thermal comfort in the *Daechung* of a traditional Korean house. *Building and Environment*, 44, 18-26 (published on 2009.01)

-2008-

- [2] **Ryu, Y.***, Baldocchi, D., Ma, S., and Hehn, T. 2008. Interannual variability of evapotranspiration and energy exchanges over an annual grassland in California. *Journal of Geophysical Research-Atmospheres* 113(D09104): doi:10.1029/2007JD009263 (published on 2008.09)
- [1] **Ryu, Y.**, Kang, S.*, Moon, S.K., & Kim, J. 2008. Evaluation of land surface radiation balance derived from Moderate Resolution Imaging Spectrometer (MODIS) over complex terrain and heterogeneous landscape on clear sky days. *Agricultural and Forest Meteorology*, 148, 1538-1552 (published on 2008.05)

2. Peer-reviewed journal articles (Korean Journals)

- [1] Moon, S., **Ryu, Y.**, Lee, D., Kim, J, Lim, J.H. 2007. Quantifying the spatial heterogeneity of the land surface parameters at the two contrasting KoFlux sites by semivariogram. *Korean Journal of Agricultural and Forest Meteorology* 9(2): 140-148

3. Peer-reviewed conference articles (computer science)

- [3] Humphrey, M., Hill, Z., van Ingen, C., Jackson, K., **Ryu, Y.** 2011. Assessing the Value of Cloudbursting: A Case Study of Satellite Image Processing on Windows Azure. In IEEE e-Science 2011 Conference. Stockholm, Sweden.
- [2] Li, J., Humphrey, M., Cheah, Y.-W., **Ryu, Y.**, Agarwal, D., Jackson, K. and van Ingen, C., 2010. Fault Tolerance and Scaling in e-Science Cloud Applications: Observations from the Continuing Development of MODIS Azure, IEEE e-Science 2010 Conference, Brisbane, Australia.
- [1] Li, J., Humphrey, M., Agarwal, D., Jackson, K., van Ingen, C. and **Ryu, Y.**, 2010. eScience in the cloud: A MODIS satellite data reprojection and reduction pipeline in the Windows Azure platform, Parallel & Distributed Processing (IPDPS), 2010 IEEE International Symposium on, pp. 1-10.

4. Thesis

- Ryu, Y.** 2010. Near-surface remote sensing of canopy architecture and land-atmosphere interactions in an oak savanna ecosystem. PhD Dissertation. UC Berkeley
- Ryu, Y.** 2005. Horizontal wind flows over *Daechung* as affected by spatial differentiation of thermal and turbulent environments within a traditional Korean dwelling. Master Thesis. Seoul National University.

5. Books

- [5] **Ryu, Y.**, 2013. Ecology as images, In: Yongsan Park- edited by Jeonghan Pae, Namucity
- [4] Baldocchi, D.D. and **Ryu, Y.**, 2011. A Synthesis of Forest Evaporation Fluxes from Days to Years as Measured with Eddy Covariance In: D.F. Levia, D.E. Carlyle-Moses and T. Tanaka (Editors), *Forest Hydrology and Biogeochemistry: Synthesis of Past Research and Future Directions*. Springer-Verlag, Heidelberg, Germany.

- [3] Baldocchi, D.D. Chen, Q., Chen, X., Ma, S., Miller, G., **Ryu, Y.**, Xiao, J., Wenk, R. and Battles, J. 2010 The Dynamics of Energy, Water and Carbon Fluxes in a Blue Oak (*Quercus douglasii*) Savanna in California, USA, In: Ecosystem Function in Global Savannas: Measurement and Modeling at Landscape to Global Scales – edited by Michael J. Hill and Niall P. Hanan and published by CRC/Taylor and Francis.
- [2] **Ryu, Y.** and Lee, D. 2008. Ecological implications of thermal and turbulent environments within a traditional Korean home, in *Korean Traditional Ecology II* (D. Lee Ed.), Science Books, Seoul
- [1] **Ryu, Y.** 2006. History and perspectives for landscape architecture planning, in *L·A·n·D* (D. Kim, K. Cho, Y. Lee, Y. Kim, and J. Pae Eds.), Landscape Architecture, Paju: 326-339.

6. Invited Talks

- [17] **Ryu, Y.** 2016. Remote sensing of a coupled carbon-water-energy-radiation balances from the Globe to plot scales, *American Geophysical Union Fall Meeting*, San Francisco
- [16] **Ryu, Y.** 2016. Remote sensing of terrestrial water and carbon fluxes in global scale, *Yonsei University*, South Korea
- [15] **Ryu, Y.** 2015. Research activities at Environmental Ecology Lab of Seoul National University, *Sangmyung University*, South Korea
- [14] **Ryu, Y.** 2015. Monitoring multi-layer canopy phenology of temperate deciduous and evergreen forests using low-cost spectral sensors. *University of Helsinki*, Finland
- [13] **Ryu, Y.** 2014. Integration of near-surface and satellite remote sensing to monitor land-atmosphere interactions from plot to global scales. *Global Vegetation Monitoring and Modeling*, Avignon, France
- [12] **Ryu, Y.** 2013. Accelerating visualization and data analysis of terrestrial water and carbon fluxes using FetchClimate and MODIS Azure pipeline. *Microsoft eScience meeting*, Beijing, China
- [11] **Ryu, Y.** 2013. Monitoring terrestrial gross primary productivity and evaporation everywhere, all of the time through integrating near-surface and satellite remote sensing. *Ulsan National Institute of Science and Technology*, Ulsan, South Korea
- [10] **Ryu, Y.** 2013. Monitoring CO₂ and water vapor exchanges between land and atmosphere everywhere, all of the time. *Korea Polar Research Institute*. South Korea
- [9] **Ryu, Y.** 2012. Mapping global terrestrial evapotranspiration and gross primary productivity using remote sensing. *Seoul Environment Forum, Seoul National University*. South Korea
- [8] **Ryu, Y.** 2012. Integration of near-surface and satellite remote sensing to monitor land-atmosphere interactions from plot to global scales. *Departmental Seminar, Department of Atmospheric Sciences, Yonsei University*. South Korea
- [7] **Ryu, Y.** 2012. Integration of MODIS land and atmosphere products with a coupled-process model to estimate gross primary productivity and evapotranspiration from 1 km to global scales. *ACEAS workshop, Australia*

- [6] **Ryu, Y.** 2011. Monitoring the breathing biosphere from space. *ASIAHORCs symposium*, Beijing, China
- [5] **Ryu, Y.** 2011. From the old house of Yunjeung to the Microsoft. *The Joint degree program of Landscape Architecture in Seoul National University*, Seoul, South Korea
- [4] **Ryu, Y.** 2011. Success and Failures with Implementing Biophysical Modeling to Upscale Carbon and Water Fluxes to the Global Scale. *Fluxnet-Specnet Joint Workshop*, Berkeley, California, USA
- [3] **Ryu, Y.** 2010. Environmental and ecological planning and management. *Faculty Search Seminar*, Seoul National University, South Korea
- [2] **Ryu, Y.** 2010. Remote sensing of canopy architecture and land-atmosphere interactions from leaf to the global scale. *Environmental Institute Seminar*, Kangwon National University, South Korea
- [1] **Ryu, Y.** 2009. A natural ventilation system in a traditional Korean home. *Colloquium of Department of Landscape Architecture and Environmental Planning*, UC Berkeley

7. Conference and Meeting Proceedings, Posters, and Abstracts

- [75] Hwang, Y., Ryu, Y., Kimm, H., Macfarlane, C., Lang, M., Sontentag, O., & Jiang, C. (2015). On the accurate estimation of gap fraction during daytime with digital cover photography. AGU fall meeting 2015, San Francisco, USA
- [74] Jeong, J., Ryu, Y., & Lee, D. (2015). Trees growing through impervious surfaces use shallower water sources: a stable isotope study. AGU fall meeting 2015, San Francisco, USA
- [73] Kimm, H., Ryu, Y., Kang, M, Kim, J. (2015). Does sun-induced Chlorophyll fluorescence well capture canopy photosynthesis in a rice paddy? AGU fall meeting 2015, San Francisco, USA
- [72] Lee, S., Ryu, Y., Jiang, C. (2015). Minimizing Gaps of Daily NDVI Map with Geostationary Satellite Remote Sensing Data. AGU fall meeting 2015, San Francisco, USA
- [71] Huang, Y., Ryu, Y., Jiang, C. (2015). Mapping South Korea's Paddy Rice from 2001 to 2015 Based on Landsat Images. AGU fall meeting 2015, San Francisco, USA
- [70] Jiang, C., Ryu, Y. (2015). BESS: A Set of Global GPP and ET Products Derived from MODIS/AVHRR Data and A Process-based Model. AGU fall meeting 2015, San Francisco, USA
- [69] Jeong, J., Ryu, Y., & Lee, D. (2015). Using isotope composition in tree rings to evaluate ORCHIDEE-DOFOCO carbon cycle model. Korean Society of Agricultural and Forest Meteorology, 2015, Korea
- [68] Jiang, C., Ryu, Y., Kobayashi, H. (2015). A set of operational radiation, carbon and water fluxes products from MODIS data and a process-based model. IGARSS 2015, Milan, Italy
- [67] Kim, J., & Ryu, Y. (2015). Changes of NDVI across vertical canopy layers in temperate deciduous forest during a litterfall period. AGU fall meeting 2015, San Francisco, USA
- [66] Kim, H., **Ryu, Y.**, Kobayashi, H., Hong, J., Lee, K., Hong, J. 2014. Effects of tree size and arrangement on carbon flux and energy exchange in an urban park. *AGU fall meeting 2014*, San Francisco, USA

- [65] Kim, H., **Ryu, Y.**, Kobayashi, H., Hong, J., Lee, K., Hong, J. 2014. A 3-D Radiative Simulation of Carbon, Water and Energy Fluxes in an Urban Ecosystems. *URBIO 2014*, Seoul, South Korea
- [64] Kim, H., and **Ryu, Y.** 2014. Large variations in leaf area index and photosynthetic parameters over the seasons and across species in an urban park. *4th iLEAPS Science Conference*, Nanjing, China
- [63] Lee, S., **Ryu, S.** 2014. What land covers are effective in mitigating a heat island in urban building rooftop? *AGU 2014 Fall Meeting*, San Francisco
- [62] **Ryu, Y.**, Lee, G., Hwang, Y. 2014. Monitoring multi-layer canopy phenology of temperate deciduous and evergreen forests using low-cost spectral sensors, *ForestSAT 2014 Meeting*, Riva del Garda, Italia
- [61] **Ryu, Y.**, Lee, G., Jeon, S., Song, Y. 2013. Monitoring multi-layer canopy phenology using near-surface remote sensors in temperate deciduous and evergreen forests in Korea, *AGU 2013 Fall Meeting*, San Francisco
- [60] Song, Y., **Ryu, Y.** 2013. Spectral variability of deciduous leaves depending on the developmental stages and tree condition, *AGU 2013 Fall Meeting*, San Francisco
- [59] Lee, G., **Ryu, Y.** 2013. Application of light emitting diodes (LEDs) sensor to monitor vegetation phenology in dense, multi-layered forests, *AGU 2013 Fall Meeting*, San Francisco
- [58] Jeon, S., **Ryu, Y.** 2013. Improving estimates of leaf area index by processing RAW images in upward-pointing-digital cameras, *AGU 2013 Fall Meeting*, San Francisco
- [57] Jeong, J., **Ryu, Y.** 2013. Impacts of the impervious surfaces on the water use by urban trees: Hydrogen isotope analysis, *AGU 2013 Fall Meeting*, San Francisco
- [56] Kim, H., **Ryu, Y.** 2013. Seasonal variation of leaf traits in two woody species of an urban park, *AGU 2013 Fall Meeting*, San Francisco
- [55] Richardson, A.D., Toomey, M.P., Aubrecht, D., Sonnentag, O., **Ryu, Y.**, Hilker, T. 2013. Linking canopy phenology to the seasonality of biosphere-atmosphere interactions in a temperate deciduous forest. *AGU 2013 Fall Meeting*, San Francisco
- [54] Jeon, S., and **Ryu, Y.** 2013. The effects of changes in net radiation and vapor pressure deficit on interannual variation of gross primary productivity and evapotranspiration in Korean peninsula *International Joint Conference of 11th AsiaFlux International Workshop, 3rd HESSS, and 14th Annual Meeting of KSAFM*, Seoul National University, Seoul
- [53] Lee, G., and **Ryu, Y.** 2013. Incorporation of topographic effects on MODIS-derived solar radiation model. *International Joint Conference of 11th AsiaFlux International Workshop, 3rd HESSS, and 14th Annual Meeting of KSAFM*, Seoul National University, Seoul
- [52] Kobayashi, H., **Ryu, Y.**, Baldocchi, D.D., Welles, J., and Norman, J.M. 2013. Removal of scattered radiation in canopy gap fraction measurements from LAI-2200 Plant Canopy Analyzer. *International Joint Conference of 11th AsiaFlux International Workshop, 3rd HESSS, and 14th Annual Meeting of KSAFM*, Seoul National University, Seoul

- [51] Bae, J., and **Ryu, Y.** 2013. Quantification of soil carbon stocks and flux in the Seoul Forest Park. *International Joint Conference of 11th AsiaFlux International Workshop, 3rd HESSS, and 14th Annual Meeting of KSAFM, Seoul National University, Seoul*
- [50] Bae, J., and **Ryu, Y.** 2012. Carbon Stocks in the Seoul Forest Park: Quantification of Soil and Vegetation. *AGU 2012 Fall Meeting, San Francisco*
- [49] Do, N., Kang, S., **Ryu, Y.** 2012. Responses analysis of ecosystem functional variables to land surface biophysical and climate variables using satellite imagery in Mongolia. *AGU 2012 Fall Meeting, San Francisco*
- [48] Hendrix, V., Li, J., Jackson, K., Ramakrishnan, L., **Ryu, Y.**, Beattie, K., Morin, C., Skinner, D., van Ingen, C., Agarwal, D. 2012. Community Access to MODIS Satellite Reprojection and Reduction Pipeline and Data Sets. *AGU 2012 Fall Meeting, San Francisco*
- [47] Jeon, S., and **Ryu, Y.** 2012. Temporal and spatial patterns of pan evaporation in South Korea. *AGU 2012 Fall Meeting, San Francisco*
- [46] Jeon, S., **Ryu, Y.**, and Lee, G. 2012. Spatial and temporal patterns of gross primary productivity and evapotranspiration derived from MODIS-based biophysical model over Korean Peninsula. *AOGS – AGU (WPGM) Joint Assembly, Singapore.*
- [45] Lee, G., **Ryu, Y.**, and Jeon, S. 2012. Incorporation of topographic effects on MODIS-derived solar radiation product. *AOGS – AGU (WPGM) Joint Assembly, Singapore.*
- [44] **Ryu, Y.**, Verfaillie, J., Sonnentag, O., Kobayashi, H., Ma, S., Vargas, R., Falk, M., Baldocchi, D. 2012. Continuous observation of tree leaf area index at ecosystem scale using upward-pointing digital cameras. *AOGS-AGU Joint Assembly, Singapore*
- [43] **Ryu, Y.** 2012. Integration of MODIS land and atmosphere products with a coupled-process model to estimate gross primary productivity and evapotranspiration from 1 km to global scales. *AGU Chapman Conference for Remote Sensing of Terrestrial Water Cycles, Hawaii, USA*
- [42] Vargas, R., Cavazos, T., Lara, R., Gaxiola, G., Reimer, J., and **Ryu, Y.** 2012. Advancing carbon cycle science in North America: Opportunities in land and ocean across Mexico, *Public seminar at Department of Environmental Earth System Science, Stanford University*
- [41] **Ryu, Y.** 2011. Integration of MODIS land and atmosphere products with a coupled-process model to estimate gross primary productivity and evapotranspiration from 1 km to global scales. *International Convergence of Forest Technologies for Mitigating Climate Change, Seoul, South Korea*
- [40] **Ryu, Y.**, Verfaillie, J., Sonnentag, O., Kobayashi, H., Ma, S., Vargas, R., Falk, M., Baldocchi, D. 2011. Near-surface remote sensing of canopy architecture, spectral reflectance and canopy color: LED-spectral sensor, digital cover photography and webcam. *Fluxnet-Specnet Joint Workshop, Berkeley, California, USA*
- [39] Baldocchi, D.D., **Ryu, Y.** 2010. Lessons Learned about Ecosystem Evaporation from Long-term, Global Flux Networks, *EPFL LATSIS Symposium, Lausanne, Switzerland*

- [38] Baldocchi, D.D., **Ryu, Y.** 2010. Evaporation in vineyards, *Fruition Sciences Symposium*, St. Helena, CA, USA.
- [37] Agarwal, D., van Ingen, C., Humphrey, M., Goode, M., Li, J., **Ryu, Y.**, Shoshini, A., Faybishenko, B., Romosan, A., Hunt, J.R., Moran, T. 2010. Developing Data Analysis Infrastructure to Support Regional and Global Scale Synthesis, *AGU Fall Meeting*, San Francisco, USA.
- [36] **Ryu, Y.**, Baldocchi, D.D., Kobayashi, H., Li, J., van Ingen, C., Agarwal, D., Jackson, K., Humphrey, M. 2010. MODIS-based global terrestrial estimates of gross primary productivity and evapotranspiration, *AGU Fall Meeting*, San Francisco, USA.
- [35] Kobayashi, H., Baldocchi, D.D., **Ryu, Y.**, Chen, Q., Ma, S., Osuna, J.L., Ustin, S., 2010. Quantifying radiation and energy balances at a heterogeneous oak savanna ecosystem in California: a three dimensional modeling approach, *AGU Fall Meeting*, San Francisco, USA.
- [34] Moran, T.C., **Ryu, Y.** Agarwal, D., Baldocchi, D.D., Hunt, J.R., van Ingen, C., 2010. Comparing Annual Evapotranspiration Estimates at the Watershed Scale Using Geospatial Satellite and Rainfall-Runoff Data, *AGU Fall Meeting*, San Francisco, USA.
- [33] **Ryu, Y.** 2010. The Breathing Earth System Simulator (BESS): A novel approach that couples atmospheric radiative transfer, photosynthesis, leaf energy balance and evapotranspiration using MODIS, *Harvard University Herbaria Seminar*, Cambridge, USA.
- [32] Baldocchi, D.D., **Ryu, Y.** and Van Ingen, C., 2010. Scaling Information on 'Biosphere Breathing' from chloroplasts to the Globe, *Microsoft eScience Workshop*, Berkeley, USA.
- [31] Kobayashi, H., **Ryu, Y.**, Ustin, S., Baldocchi, D.D. 2009. Spatial radiation environment in a heterogeneous oak woodland using a three-dimensional radiative transfer model and multiple constraints from observations, *AGU Fall Meeting*, San Francisco, USA.
- [30] Li, J., **Ryu, Y.**, Jackson, K., Agarwal, D., Humphrey, M., van Ingen, C., Agarwal, D. 2009. A Cloud Computing Service for Remote Sensing Data Reprojection and Science Reduction, *AGU Fall Meeting*, San Francisco, USA.
- [29] Baldocchi, D.D., **Ryu, Y.**, Nilson, T., Kobayashi, T., Sonnentag, O. 2009. On the correct estimation of effective leaf area index: does it reveal information on clumping effects?, *AGU Fall Meeting*, San Francisco, USA.
- [28] **Ryu, Y.**, Baldocchi, D.D., Li, J., Jackson, K., van Ingen, C., Agarwal, D. 2009. Spatial and temporal variability of evapotranspiration derived from MODIS and FLUXNET over US from 2001 to 2008, *AGU Fall Meeting*, San Francisco, USA.
- [27] Li, J., **Ryu, Y.**, Jackson, K., van Ingen, C., Agarwal, D. 2009. Construction of the MODIS Scientific Data Reprojection and Reduction Pipeline in Windows Azure Platform, *Microsoft eScience Workshop*, Pittsburgh, USA.
- [26] Baldocchi, D.D., Vargas, R., **Ryu, Y.**, Reichstein, M., Papale, D., Agarwal, D., van Ingen, C., 2009. Fluxnet 2009 progress. *Ameriflux meeting*, Washington, USA

- [25] Baldocchi, D.D., Vargas, R., **Ryu, Y.**, Reichstein, M., Papale, D., Richardson, A., Agarwal, D., van Ingen, C., Cook, R. 2009. Using a global flux network-Fluxnet- to study the breathing of the terrestrial biosphere. *iLEAPS Science Conference*, Melbourne, Australia
- [24] **Ryu, Y.**, Baldocchi, D., Ma, S., and Vargas, R. 2009. Tracking phenology using LED, webcam and MODIS and their potential link to ecosystem fluxes in a savanna ecosystem, *4th Global vegetation workshop*, University of Montana, USA.
- [23] Sonnentag, O., **Ryu, Y.**, Vargas, R., and Baldocchi, D. 2008. Quantification of canopy structure and its effect on radiative transfer, and CO₂ flux in a heterogeneous oak-grass savanna ecosystem at the landscape scale, *AmeriFlux meeting, Boulder, CO, USA*.
- [22] **Ryu, Y.**, Baldocchi, D., Vargas, R., and Ma, S. 2008. Application of webcam for identifying phenological events and linking with GPP, leaf area index, and MODIS NDVI, *8th Berkeley Atmospheric Sciences Center Symposium*, Berkeley, USA.
- [21] **Ryu, Y.**, and Baldocchi, D. 2007. Vegetation and climatic controls on the evapotranspiration and energy exchanges over an oak-grass savanna and annual grassland, *AGU Fall Meeting*, San Francisco, USA
- [20] Agarwal, D., Baldocchi, D., Boden, T., Cook, B., Frank, D., Goode, M., Gupchup, J., Holladay, S., Humphrey, M., van Ingen, C., Jackson, B., Papale, D., Reichstein, M., **Ryu, Y.**, Vargas, R., Wilson, B., and Li, N. 2007. Creating and accessing the global Fluxnet data set, *AGU Fall Meeting*, San Francisco, USA.
- [19] Kim, H., Jang, G., **Ryu, Y.**, Kim, J., and Kang, S. 2007. MODIS-Derived Shortwave and Net Radiation in South Korea, *AsiaFlux Workshop 2007*, Taoyuan, Taiwan.
- [18] **Ryu, Y.**, and Baldocchi, D. 2007. Interannual variability of over- and understory evapotranspiration and energy exchanges over a savanna ecosystem of California, *7th Berkeley Atmospheric Sciences Center Symposium*, Berkeley, USA.
- [17] Kim, H., Jang, G., **Ryu, Y.**, Kim, J., and Kang, S. 2007. Mapping of MODIS-derived Shortwave Radiation in South Korea, *9th Annual Academic Conference of the Korean Society of Agricultural and Forest Meteorology*, Chuncheon, Korea.
- [16] Moon, S., **Ryu, Y.**, Lee, D., and Kim, J. 2007. Quantifying the spatial heterogeneity of the land surface parameters at the two contrasting KoFlux sites by semivariogram, *9th Annual Academic Conference of the Korean Society of Agricultural and Forest Meteorology*, Chuncheon, Korea.
- [15] **Ryu, Y.**, Kang, S., Moon, S., and Kim, J. 2007. Evaluation of Moderate Resolution Imaging Spectroradiometer (MODIS) driven land surface radiation balance over a complex terrain and a heterogeneous landscape for clear sky days, *9th Annual Academic Conference of the Korean Society of Agricultural and Forest Meteorology*, Chuncheon, Korea.
- [14] Jang, G., Kim, H., **Ryu, Y.**, Kim, J., Lee, J., and Kang, S. 2007. Development of MODIS driven net radiation and evapotranspiration over Korean peninsula, *AGU Spring meeting*, Acapulco, Mexico.
- [13] Kim, H., Kang, S., **Ryu, Y.** and Kim, J. 2006. Comparison of MODIS driven net radiation over a montaneous terrain and a heterogeneous farmland, *AsiaFlux Workshop*, Taiwan.

- [12] Kang, S., **Ryu, Y.** and Kim, J.. 2006. Diurnal variation of MODIS driven net radiation over a complex terrain and a heterogeneous landscape for clear sky days, *8th Annual Academic Conference of the Korean Society of Agricultural and Forest Meteorology*, Jeju, Korea.
- [11] **Ryu, Y.**, Kang, S., and Kim, J.. 2006. Validation of MODIS driven biophysical variables over a deciduous forest and farmland in Korea, *Global vegetation workshop*, University of Montana, USA.
- [10] Moon, S., Choi, T., **Ryu, Y.**, Woo, N., and Kim, J. 2006. Spatial structure analysis around a Haenam flux site by using an IKONOS image, *Fall Academic Conference of Korean Meteorological Society*, Ilsan, Korea.
- [9] **Ryu, Y.**, Kang, S., and Kim, J.. 2006. Validation of MODIS driven biophysical variables over a deciduous forest and farmland in Korea, *3rd Global vegetation workshop*, University of Montana, USA.
- [8] **Ryu, Y.**, and Lee, D. 2005. Spatial differentiation of thermal and turbulent characteristics within a traditional Korean home, *Traditional Ecology Workshop*, Seoul National University, Korea.
- [7] Kang, S., Lee, D., Kim, E., Kim, Y., Kim, Y., and **Ryu, Y.** 2005. Applications of biophysical models and satellite remote sensing to monitor terrestrial water and carbon fluxes, *The 21st Century COE Program "Satellite Ecology"*, Gifu University, Japan.
- [6] **Ryu, Y.**, Kim, S., Kang, S., and Kim, J. 2005. Comparison of Priestley-Taylor and Boegh models for estimation of actual evapotranspiration in a farmland of Haenam, *7th Annual Academic Conference of the Korean Society of Agricultural and Forest Meteorology*, Sangju, Korea.
- [5] **Ryu, Y.**, Lee, J., Park, S., Byun, U., Hong, J., and Kim, J. 2005. Quality assurance for micrometeorological data from Gwangneung and Haenam flux sites, *7th Annual Academic Conference of the Korean Society of Agricultural and Forest Meteorology*, Sangju, Korea.
- [4] Kang, S., Kim, Y., Kim, Y., Kim, E., **Ryu, Y.**, Kim, S., and Kim, J. 2005. Eco-hydrological modeling and remote sensing for monitoring carbon and water fluxes in topographically complex forested landscapes, *4th Asia Flux Workshop*, Fujiyoshida, Japan.
- [4] **Ryu, Y.**, Kim, S., and Kang, S. 2005. Estimation of actual evapotranspiration using Priestley-Taylor model and MODIS. *The Joint Meeting of 90th Annual Meeting of the Ecological Society of America and IX International Congress of Ecology*, Montreal, Canada.
- [3] **Ryu, Y.**, and Kang, S. 2005. Evapotranspiration models compared in the Gwangneung Experimental Forest, *Spring Academic Conference of Korean Meteorological Society*, Gangneung, Korea.
- [2] **Ryu, Y.**, Park, S.J., and Lee, D. 2004. Ecological implication of horizontal wind flows caused by spatial differentiation of vertical heat fluxes within a traditional Korean dwelling, *1st East Asian Federation of Ecological Societies International Congress*, Mokpo, Korea.
- [1] Lee, D., and **Ryu, Y.** 2004. Landscape ecology perspectives in old Korean documents and traditional landscapes, *1st East Asian Federation of Ecological Societies International Congress*, Mokpo, Korea.

8. Reports

Ryu, Y., Li, J., van Ingen, C., Agarwal, D., Jackson, K., Cheah, Y.W., Humphrey, M., 2010. Global Remote Sensing in a PC: Cloud Computing as a New Tool to Scale Land Surface Fluxes from Plot to the Globe. *Fluxletter* 3(3): 9-13

Kang, S., **Ryu, Y.**, Kim, E., Lim, J., Kim, K. and Kim, J. 2006. Ecohydrological modeling satellite remote sensing for scaling terrestrial carbon and water fluxes on heterogeneous landscapes, *AsiaFlux Newsletter* 18: 8-12.

Relevant Skills

1. Experimental facilities and sampling

Plant Canopy Analysis

- o LAI-2000, LAI2200, Digital cover photography, Digital hemispheric photography

Micrometeorology measurements

- o Eddy covariance system: CSAT3 (Campbell), LI-7500 (LI-COR), CR5000 Datalogger (Campbell), SATI/3Sx (Applied technologies)
- o Calibration of LI-7500
- o Tether Sonde System: DigiCORA (Vaisala)
- o Weather Monitoring Systems (HOBO)
- o Temperature, Light Intensity, Humidity Datalogger (HOBO)

Spectral reflectance

- o Light emitting diodes (LEDs)
- o Ocean Optics

2. Programming

- MATLAB, ENVI/IDL, C#

3. Languages

- English, Korean, and ancient written Chinese